



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

*per*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,265	02/09/2004	Julius J. Stevens	001807-3	8577
22204	7590	01/18/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			MULLINS, BURTON S	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/773,265

Applicant(s)

STEVENS ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 132a/132b (p.9, lines 2 and 12). Further, they do not include reference signs for the following claimed elements: C-shaped first and second rotor body sections and a closed hollow cavity (claim 17). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: The detailed description contains no specific reference to newly recited "C-shaped first and second rotor body sections" and the "closed hollow cavity" in claim 17, nor reference numbers therefor, as noted above in the objections to the drawings. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. Claims 2-4 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation "said retaining means" lacks antecedent basis. In claim 9, "a first rotor body and a second rotor body" is redundant, or, there does not appear to be any distinction between these elements and the "first and second rotor body sections" in claim 1, rendering the terms vague and indefinite.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Frister (US 3,713,015). Frister teaches a permanent magnet alternator comprising: a stator including a stator body 14 and a plurality of spaced stator poles projecting inwardly from said stator body (not shown, inherent); a winding circuit 15 wound through the spaces between said plurality of stator poles, a rotor assembly mounted for rotation within said stator body (Fig.3), said rotor assembly including a rotor body having a first rotor body section with an outer circumferential

Art Unit: 2834

surface (part of shaft 12) and a second rotor body section (sleeve) 13 with an outer circumferential surface (Fig.3); a plurality of permanent magnets 10/11 fixedly mounted on said outer circumferential surface of said first and said second rotor body sections, said plurality of permanent magnets mounted in alternating polarity (Fig.2).

6. Claims 1, 9 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Krefta et al. (US 6,538,358). Krefta teaches a permanent magnet alternator comprising: a stator including a stator body and a plurality of spaced stator poles projecting inwardly from said stator body (inherent in the conventional Lundell-type automobile generators disclosed in c.1, lines 54-62), a winding circuit 30 wound through the spaces between said plurality of stator poles (also inherent in Lundell generators), a rotor assembly 120 (Fig.2) mounted for rotation within said stator body, said rotor assembly including a rotor body having a first rotor body section 126 with an outer circumferential surface 127 and a second rotor body section 128 with an outer circumferential surface 129 (Fig.2), a plurality of permanent magnets 130 fixedly mounted on said outer circumferential surface of said first and said second rotor body sections, said plurality of permanent magnets mounted in alternating polarity (Fig.2). Regarding claim 17, the first and second sections with their claws 126/128 can be considered to be C-shaped in cross-section, with the closed hollow cavity filled by field coil 124.

7. Claims 1, 5-9 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Torok (6,127,764). Torok teaches a permanent magnet alternator (c.1, lines 7-8) comprising: a stator including a stator body 11 and a plurality of spaced stator poles 11C projecting inwardly from said stator body (Fig.1); a winding circuit 15 wound through the spaces between said plurality of stator poles, a rotor assembly 12 mounted for rotation within said stator body

Art Unit: 2834

(Fig.2), said rotor assembly including a rotor body having a first rotor body section, i.e., a lamination plate 12A with an outer circumferential surface (Fig.2) and a second rotor body section, an adjacent second lamination plate 12A with an outer circumferential surface; a plurality of permanent magnets 16 fixedly mounted on said outer circumferential surface of said first and said second rotor body sections, said plurality of permanent magnets mounted in alternating polarity (c.3, line 25). Regarding claims 5-6, the laminations 12A comprise ferromagnetic material such as steel (c.3, lines 5-6). Regarding claims 7-8, see c.3, line 8. Regarding claim 18, magnets 16 are attached to both a lamination 12A and an adjacent lamination (Fig.2).

***Claim Rejections - 35 USC § 103***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 2-4, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Frister, Krefta or Torok, further in view of Asai (US 4,628,891). Neither Frister, Krefta nor Torok teach a retaining ring for their respective rotor magnets.

Asai teaches a permanent magnet alternator comprising a rotor assembly including a rotor body (iron cup) 2; a plurality of permanent magnets 3 fixedly mounted on an outer circumferential surface of said rotor body 2 in alternating polarity (Fig.2); and retaining means (cup-like, magnet protection cover) 4 for reducing the effects of centrifugal motion of said rotor body during operation of said alternator (Figs.1&7), said retaining means 4 being positioned between said plurality of permanent magnets 3 and said stator poles and providing

Art Unit: 2834

protection for the magnets (Figs. 1&7; c.3, lines 3-5; c.7, lines 24-25). The retaining means, as seen in Figs. 1&7, comprises a cylindrical sleeve.

It would have been obvious to modify any one of Frister, Krefta or Torok and provide a cylindrical sleeve retaining means per Asai in order to protect the rotor magnets.

Regarding claims 3-4, the magnet protection cover 4 in Asai comprises non-magnetic material such as stainless steel (c.3, lines 18-23).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krefta in view of West (US 4,797,602). Krefta substantially teaches applicant's invention including first and second body sections positioned in abutment to form an enclosed hollow cavity, but does not provide fan-like projections spaced equidistant along the rotor body.

West teaches a permanent magnet alternator including a rotor body 23 and a plurality of fan-like projections 25 spaced equidistant along said rotor body (Fig. 1); wherein each of said fan-like projections 25 project outwardly from said rotor body along a plane lying substantially parallel relative to an outer surface of said rotor body so as to reduce the ambient temperature within said alternator during rotation of said rotor body by drawing air into the machine through apertures (c.4, lines 45-56).

It would have been obvious to modify Krefta and provide fan-like projections on the rotor body per West since this would have been desirable to draw cooling air into the alternator to cool the machine during operation.

*Response to Arguments*

11. Applicant's arguments with respect to claims 1-10 and 17-18 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 571-272-2029. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
13 January 2005